Small Business Innovation Research

Interactive Software for End-To-End Electro-Optical System Modeling

Lambda Research Corporation

Littleton, MA

INNOVATION

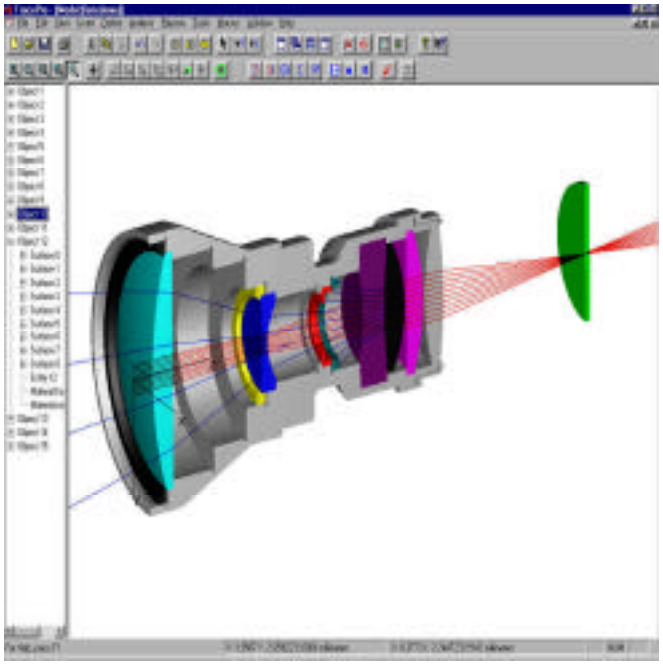
The TracePro electro-optical modeling module predicts the end-to-end performance of electro-optical systems. Simulates the illumination of a scene or target through an optical system complete with opto-mechanical components and conversion to an electrical signal

ACCOMPLISHMENTS

- Addition of blackbody/graybody source modeling to existing TracePro under JPL Phase II SBIR contract.
- Addition of aperture diffraction modeling to TracePro.
- Created Bitmap Source Converter module.
- Detector modeling module that converts incident irradiance into an electrical signal with modeling of noise and detectivity.
- Developed detector database of commercially available detectors.
- Modeling of end-to-end system metrics (MTF and PSF).

COMMERCIALIZATION

- Current sales of full TracePro family total $1.2M annually.
- TracePro with BitMap Source Converter purchased by Olympus Optical, International Optical, and Matsushita Electronics.



End-to-End Electro-Optical System Modeling

GOVERNMENT SCIENCE/APPLICATIONS

- Used in the design of surveillance systems, missile systems, heads-up display systems, and imaging systems.
- Software used in the design of Imaging and Heads-up Displays.
- Provides 30-50% savings in time and cost over traditional development methods.

Points of Contact:

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Goddard Space Flight Center

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